

CLAIMS

1. Trocar device (9) for passing a surgical instrument (15), characterised in that it includes measuring means (10, 17, 19) for measuring the force exerted by the said instrument (15) on the internal organs of a patient (6).
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2. Device according to claim 1, characterised in that the said measuring means take the form of at least one force transducer (10, 19).
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3. Device according to claim 2, characterised in that the said force transducer (10, 19) is arranged on the said trocar (9).
4. Device according to claim 2, characterised in that the said transducer (10, 19) takes the form of a roller with a central orifice (11, 20).
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5. Device according to claim 2, characterised in that the said force transducer (10, 19) is arranged between the said trocar (9) and a guide (12).
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6. Device according to the preceding claim, characterised in that the said guide (12) takes the form of a tubular element (13) with a lengthwise axis (X-X) having a circular plate (14), perpendicular to (X-X), at one of its ends.
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7. Device according to claim 5, characterised in that the said guide (12) is inserted in the said central orifice (11, 20) of the said force transducer (10, 19) and in the said trocar device (9).

8. Device according to claim 1, characterised in that the said instrument (15) is set in motion by a robotised arm (7).
9. Device according to claim 8, characterised in that a second force transducer (17) is arranged between the end (16) of the said robotised arm (7) and the said surgical instrument (15).
10. Device according to claim 1, characterised in that the said instrument (15) is set in motion by a displacement mechanism (21).
11. Device according to the preceding claim, characterised in that the said displacement mechanism (21) is arranged on the said guide (12).
12. Device according to claim 10, characterised in that the said displacement mechanism (21) is a roller type displacement mechanism.
13. Device according to claim 10, characterised in that it is set in motion by the end (16) of a robotised arm (7).
14. Device according to claim 8, characterised in that the displacement of the said robotised arm (7) is controlled from an interface (2).